Particle dynamics class, SMS 618, Emmanuel Boss (last edited on 12/3/2003) Review of particle dynamics class (in addition to regular U. Maine review):

Please rate the following activities we have done in class (1-weak, don't bother replicating in the future, 5-great, should absolutely do again)

Activities:	Grade	Additional comments:
	(173)	
Laboratory on measurements of particle size		
distributions of sediments using: Sieves, X-ray		
Sedigraph, and Settling tube. @ Dan Belknap's		
lab (1st floor of Bryand Global Sciences Center).		
Lab: beam attenuation; the measurement and its		
dependence on concentration.		
Lab: measuring angular scattering to obtain		
particulate size distribution in-situ using the		
LISST		
Lab: Low Reynolds number settling		
Lab: ADV measurement of Reynolds fluxes and		
stresses in a flume		
Matlab exercise regarding solute flux to away		
from settling sphere		
Matlab exercise regarding aggregation using		
George Jackson's code.		
Computer exercise with software modeling		
stratified sediment transport under current based		
on Taylor and Dyer (1977)		
Small wave tank, formation of ripples, sediment		
dynamics.		
Lab: van Rijn TRANSPOR program to compute		
sediment transport		

Please rate the following papers/chapters we read for class (1-useless material, 5-great and pertinent reading)

Readings:	Grade	Additional Comments
	(1→5)	
Jackson, G. A., Maffione, R., Costello, D. K.,		
Alldredge, A. L., Logan, B. E., and H. G. Dam,		
1997. Particle size spectra between 1um and 1cm		
at Monterey Bay determined by multiple		
instruments. Deep Sea Research, 44, 1739-1767.		
Logan, B. E., 1993. Theoretical analysis of size		
distributions determined with screens and filters.		
Limnology and Oceanography, 38, 372-381.		

Gustafsson, O. and P. M. Gschwend,	
1997. Aquatic colloids: Concepts, definitions,	
and current challenges. Limnology and	
Oceanography, 42: 519-528	
Chin WC., M. V. Orellana, and P. Verdugo,	
1998. Spontaneous assembly of marine dissolved	
organic matter into gels. <i>Nature</i> , 391, 568-572.	
Honeyman, B. D. 1991. Surface chemistry,	
colloids, and trace-elements scavenging. In	
Marine Particles: Analysis and Characterization,	
Geophysical monograph, 63, American	
Geophysical Union, 437-451.	
Johnson, C. P., X. Li, and B. E. Logan. 1996.	
Settling velocities of fractal aggregates.	
Environmental Science & Technology, 30, 1911-	
1236.	
Dietrich, W. E., 1982. Settling velocities of	
natural partilcles, Water Resources Research, 18,	
1615-1626.	
Dade, W. B., A. J. Hogg, and B. P. Boudreau,	
2001, Physics of flow above the sediment-water	
interface. Ch. 2 of The Benthic Boundary Layer	
edited by B. P. Boudreau and B. B. Jorgensen,	
Oxford University Press.	
G. T. Csanady. 1986. Mass transfer to and from	
small particles in the sea. Limnology and	
<i>Oceanography</i> , 31, 237-247.	
Hill, P. S., I. N. McCave, 2001, Suspended	
particle transport in benthic boundary layers. Ch.	
4 of <i>The Benthic Boundary Layer</i> edited by B. P.	
Boudreau and B. B. Jorgensen, Oxford	
University Press.	
Traykovski, P., W. R. Geyer, J. D. Irish, and J. F.	
Lynch, 2000. The role of wave-induced density-	
driven fluid mud flows for cross-shelf transport	
on the Eel River continental shelf. Continental	
Shelf Research, 20: 2113-2140.	
Gibbs R. J., D. M. Tshudy, L. Konwar, and J. M.	
Martin, 1989. Coagulation and transport of	
sediments in the Gironde Estuary.	
Huettel, M., I. T. Webster, 2001, Porewater flow	
in permeable sediments. Ch. 7 of The Benthic	
<i>Boundary Layer</i> edited by B. P. Boudreau and B.	
B. Jorgensen, Oxford University Press.	